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Claims:

1. A sensor device comprising:

a roller (36) in operative engagement with a housing (24);
5 a peltier element (38, 38.1) attached to the housing (24) and
having a cooled surface (41) and a heated surface (43), the
peltier element being connected to a power source (14) to
obtain a temperature difference between the cooled surface and
the heated surface thereof, the surface (41) being cooled by
10 the peltier element and the inner surface (43) being heated by
the peltier element and directed in a direction that is
opposite the direction of the surface (41), the surface (41)
being in operative engagement with the roller (36) to cool the
roller (36).

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2. The sensor device according to claim 1 wherein heat is led
away from the heated surface (43) and the surface (43) is in
contact with the housing (24) that has a high heat
conductivity and formed with an area of flanges (28) in order
20 to increase heat transfer to another medium that is in contact
with the flanges (28).

3. The sensor device according to claim 1 wherein the segment
(24) is in operative thermal contact with a volume (25)
25 containing another material (27) that has high thermal
capacity and stores heat from the inner surface (43).

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4. The sensor device according to claim 1 wherein a peltier element (38, 38.1) is held against the housing (24) by a holder 30 made of a material with low heat conductivity.

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5. The sensor device according to claim 1 wherein a cover plate (42), in contact with the peltier element, bears against a surface of the roller (36).

10 6. The sensor device according to claim 5 wherein the peltier element (38, 38.1) is in operative engagement with the cylindrical outer surface of the roller (36).

7. The sensor device according to claim 1 wherein the
15 roller (36) is rotatably attached to a housing (24) and is made of a material with high heat conductivity.

8. The sensor device according to claim 6 wherein the roller (36) is in contact with an isolation material (29) that is
20 cooled by the peltier element (38.1).

9. A sensor device comprising:

a peltier element (38) held by a holder (30) threadedly attached to an outer end (26) of a housing (24);

25 the peltier element (38) being in contact with the housing (24) and disposed on the outer end (26);

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the peltier element having a cooled surface (41) and a heated surface (43), the peltier element being connected to a power source (14) to obtain a temperature difference between the cooled surface and the heated surface thereof, the surface
5 (41) being cooled by the peltier element and the inner surface (43) being heated by the peltier element and directed in a direction that is opposite the direction of the surface (41);

the surface (41) providing a cooled testing surface, the surface (43) being in contact with the housing (24) that has a
10 high heat conductivity for effectively transferring heat from the surface (43) and the housing (24) having a volume for absorbing the heat, the housing having a surface formed with an area of flanges (28) in order to increase heat transfer to another medium that is in contact with the flanges (28);

15 the holder (30) being made from a material with a low heat conductivity, that is lower than the high heat conductivity of the housing (24), to avoid heat transfer between the cold surface (41) and the hot surface (43); and

the housing having a cavity (25) defined therein, the
20 cavity (25) containing a material (27) having a high thermal capacity higher than a thermal capacity of the housing (24) for storing heat from the inner surface (43).

10. The sensor device according to claim 9 wherein the sensor
25 device has a cover plate (36) held by the holder (30).